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Those novel military organizations known under the popular designation of "Rough Riders" are forcibly proving their soldierly efficiency in the present war. The topography of eastern and central Cuba especially is similar in troops, battalions or regiments possessing special qualifications from the nation at large under such rules and regulations, including the appointment of the officers thereof, as may be prescribed by the secretary of war."

This bill was passed on April 22, and

branch owner and lawyer of Wyoming, known as a politician is known as the author of "The Torrey bankruptcy bill." Lieutenant Colonel J. Q. Cannon is a son of Senator Cannon. The senior member of the family, who was formerly in the Fifth cavalry, is Wheeler of Denver, who has also seen service in the regulars. He second in command of the famous "Lightning" Sheriff of Wyoming, the late major. The adjutant is Herbert J. Lacey, a son of the former judge of the supreme court in Cheyenne. Mortimer Surprenant is the quartermaster.

In addition to the gaudies of Company I, which is of Utah stock and was presented by the women of Salt Lake City, there are many regimental mementoes—one pretty little horse, one of the best gifts from the women of Cheyenne, and Willie Kane, a boy 15 years old, who claims Pittsburgh as his home and "pat" himself as a "cowboy." The sergeant blows the bugle calls. But the regiment of volunteer cavalry, placed in the trust in machetes as well as in guns; while the men of the Thir, or Grigsby's, regiment have pinned their faith to the revolver. These ideas are not new. The Thir, under its able and experienced commanders in the most efficient weapon, and subsequent events may prove which of the three is the most successful. It is probable, however, that a probability that the machete, or rifle, and the revolver all have their special use at times in battle. In days of siege the rifle is the most useful. The last named regiment, which insisted on the original regiment of Rough Riders and should have been sent at first with Colorado's men, contains 12 companies ; of 25 men each, and is commanded by 32 riding officers. About 85 per cent of them are miners or cowboys, the remainder being clerks, business and professional men. The horses are of all breeds, but those with which they are supplied are especially large and strong, but perhaps

tion as "Teddy's Terrors," or "Roosevelt's Rough Riders," the latter term being really accepted because of 'apt' and 'familiar' sound, and not because of alliteration's sake. The name of the band, and the popularity of the color, the literature, politician and civil service reformer.

It is known that when Roosevelt stated his determination to go to the scene of war the president offered him a colonelcy, but he declined that honor and

that, his knowledge of military tactics was not sufficient, but he would accept a position as assistant to his friend Wood, and then the two gentlemen received the commission to lead the 1st Cavalry recently when Wood was made a brigadier general of volunteers and Roosevelt colonel of the Rough Riders for gallant work at Santiago.

This regiment was the first to feel the brunt of the battle of the San Juan, on June 24, when 17 of the brave fellows fell dead in the Cuban Campaign. Brigadier General Wood, the former commander of these Rough Riders, was known throughout the west country, thirty years ago as the "Fighting Doctor". Today, his name is immortal upon his breast voted to him by congress for bravery in the Geronimo campaign. It was then said that the officers excepting himself and one other, had been prostrated by the

ward campaign: A native of Boston, he entered the army in 1855. Arriving at the fort in Arizona which was to be his headquarters one evening in June, he found the fields at 3 o'clock the next morning in a state of burning. Arriving in time to join the first Arizona campaign, and for the succeeding two years his career was more that of a soldier than a surgeon. He made trips of 2,000 miles in length and was active in the Indian campaign of 1883. He has been in the service of the army since 1855, always aggressively, as chief of service, commissioner, New York city police commissioner, and assistant secretary of the navy. From the time of his graduation at Harvard, as fancianman, litterateur, politician or reformer, he has been in the public eye.

The regiment and recruits from a combination of the plain and military combinations ranks of New York city, so the society dudes who were polo experts and country riders, representing well known, wealthy and illustrious families were the elite. There are also in the ranks college students from Yale and Princeton and two men from Harvard class of 1885. It has been Lieutenant Colonel Roosevelt's idea that the former leaders of the cotton could learn more readily the use of the saber and the revolver than the city boys who by association with the money men have lived in the idle and slothful life.

he was dubbed the "Smoked Yaak." In his book detailing his military experiences, published a few years ago, he wittily used this appellation as a title to his literary production.

At the close of the war, he succeeded in obtaining part of a college education and then studied law. After admittance to the bar he removed to South Dakota, settling in Sisseton. He then only a small village, connected with the outside world by a stage line. Always prominent in politics, he has been known as "a fighter" and a man of principle. Preferring his convictions and going to office. Years ago he was a candidate for congress and was practically nominated.

IN THE FAVOUR CHARGE AT SAN JUAN

their dreams nearly all their years, while the latter might benefit from contact with the former men of leisure and drive from the companionship some of the good characters of the "pampered darling of society." This command has two rapid-fire Colt guns and dynamic gun, artillery auxiliaries which the other two similar organizations lack. It is also known to the "hardcore gun knife, or machete" movement is armed with six shooters and either the .45 caliber carbines, Win-

lately sent to an insane asylum, but in university, has left San Francisco for P'ngastaff, A. T. "This place will be made into a base of supplies and trips taken into the interior to make a full archaeological investigation." The Grand Canyon of the Colorado, and the Enchanted Mesa, will be fully explored.

"Franklin, the majority of army and navy engineers, and the men of the expedition, the oldest daughter of the admiral, are going to marry a civilian, Henry Harrison Scott of San Francisco, but the departure from the established precedent does not seem so violent in view of the

resign his civil office, but deputed his son, Sioux K. Grigsby, to act in his stead while he is at the seat of war.

Some of the most famous characters in the west are among the officers of Grigsby's Rough Riders, and many very noted cowboys are in the ranks. According to the popular testimony, they all swear by Colonel Grigsby, for whom they have the utmost respect, and in whom they place entire confidence.

Probably Sethi Bullock, captain of A. Troop, has the greatest reputation. A rough, western experience he has begun promisingly, and his military epistles characteristic of the early days of the settlements. In the primary history of Montana he was a captain of the vigilants. During the first excitement he was a distributor of gold in the Black Hills. The miners were so lawless that it was necessary to stop the lawlessness then prevalent and which even the presence of United States soldiers; could not prevent. He was elected sheriff of the whole territory, and lost at the killing of "Wild Bill" by Jack McCall. He was a fearless man, having already been made, he soon became a terror to the "bad men" of the community, and the unprovoked, cold blooded murders rapidly decreased. He kept law in the settlement in the west, for years as a miner and stock raiser, and is today the owner of much valuable mining property and one of the finest horse ranches.

In the midst of many personal dangers and hardships he has been perfectly cool and intrepid and has been a past acquaintance as "a man of grit."

A very similar character is Captain Jack Foster of B troop, a man of iron nerve, who was born in Texas near the Mexican Territory line. He was a resident of Chamberlain, S. D., and a superintendent of a large cattle ranch when he accepted his present position. His father, one of the famous Texas cowboys, was deadened by evildoers, and it was under parental tutelage that Captain Foster received his first education in taking care of the toughs of his home community. This discipline has since rendered great service to him, for he has been able to manage such men who regard him as an obstruction to their career of rapine and murder. In 1874 he went north to Montana with "a bunch" of 5,000 cattle and from there to the Black Hills, where he engaged in "lighting across the country from Bisbee, Arizona and Pierre. Later he located at Chamberlain, which was then overrun with desperadoes, an organized gang of cattle thieves, "rustlers" who made the town their headquarters. The water element, searching for a man capable of coping with the lawless crowd, made Foster marshal of the town. His record, in the phraseology of his own men, was "great," for he soon succeeded in driving away the thugs. That he is popular among the men, the fact that 20 men who have worked for him promptly enlisted in order to be in his company. His first lieutenant, George B. Grigsby, is a son of the colo-

Captain Joseph Binder of E troop, who served in the regular army from 1878 to 1883, taking part in numerous Indian fights, is the owner of a cattle ranch, near the S. E. corner of the town, with over 1,000 head of cattle, near Terra S. The owner was a noncommissioned officer of the eleventh infantry when Colonel Frigt, now commander of the First regiment of South Dakota infantry, was a private in his company. He has the finest pack of wolfounds in the northwest and with his life follows them in the chase during the winter months.

resident of Sturpis and engaged in the cattle business, served 14 years in the cavalry branch of Uncle Sam's military forces and has experienced many hard Indian campaigns. At the time of his commissioning, he was one of the brave commissioners of South Dakota and as the first man to enter a company of Colonel Clegg's. After the latter had received his commission, Hamer was assigned to the post of sergeant under Major Reno who had just been called to re-enforce Custer at the little Big Horn battle, and his brother was killed with Custer at the time. Lieutenant Colonel Lloyd, appointed

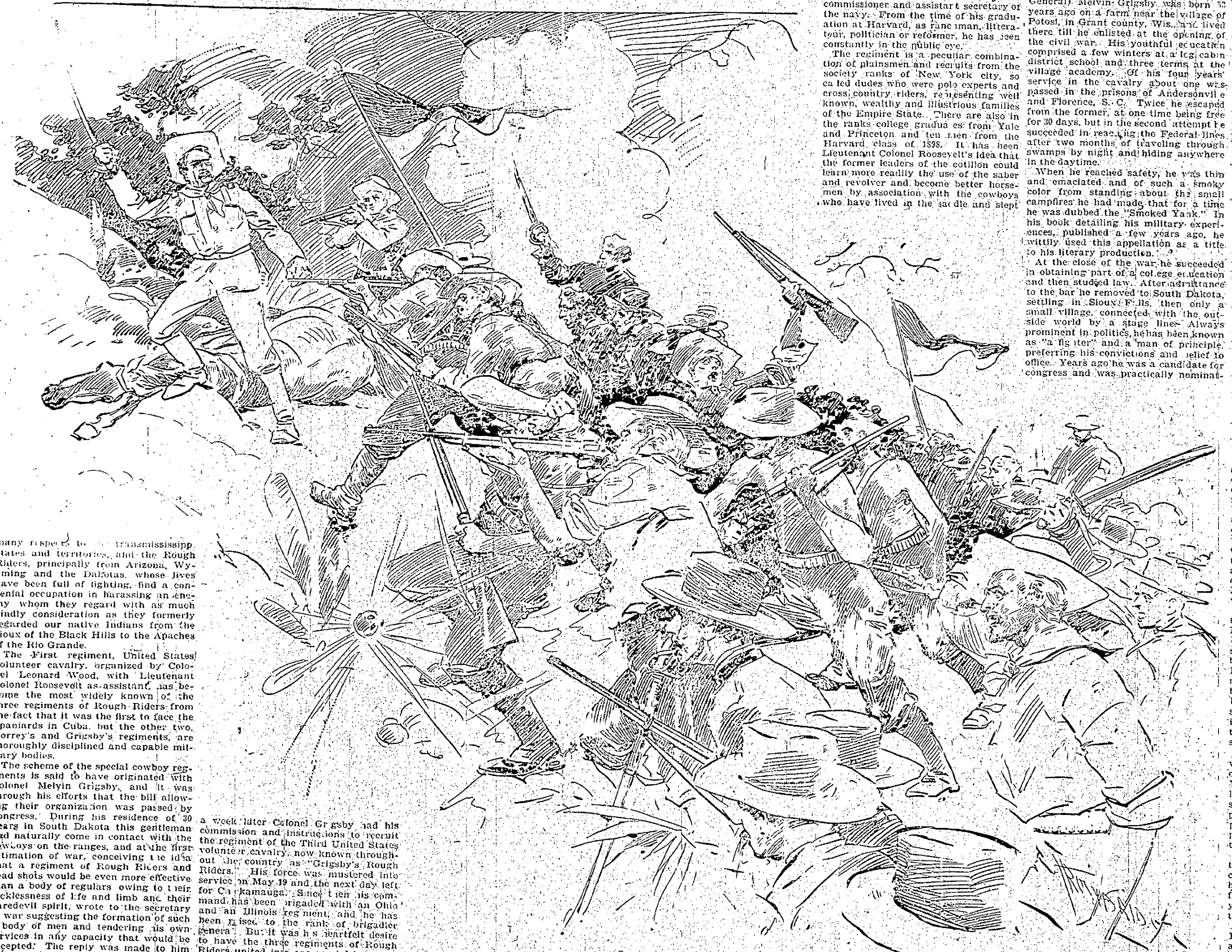
Montana, is a graduate of West Point, a native of Iowa and an ex-officer of the regular army who retired some years ago to enter mercantile business at Butte, Mont. Major Leigh E. French, the senior major of the regiment, is a physician of Washington, but has had a varied experience as a cowboy in Tom Green county, Texas; a stage driver in the west and a hunter both in the west and foreign countries. He is an expert rider and a crack shot.

Major, R. W. Stewart, also an expert in firearms and one of the youngest officers of the regiment, graduated from Yale in 1888 and since then has been located at Pierre, where he served as state's attorney and reporter of the supreme court. As a lawyer he has been prominent in practice before the supreme court of the state of his adoption.

quant, O. C. Sues, resigned a position as special pension examiner to accept a commission in the regiment. He served in the regular army, and before locating in South Dakota about two years ago he was a major of the military force in the District of Columbia. In the rank and file of Grigsby's Rough Riders are men of all classes and conditions. There are Englishmen, Mexicans, Scandinavians, half breed Indians and a sprinkling of almost every other nationality. Practically they

a few cows fresh from the ranch or cowboy who have for the time being left their business pursuits to fight under the stars and stripes. Some few of them have thrown aside remunerative positions paying as high as \$2,000 a year, but the majority are plain men, and nothing when they enlisted for their last month's pay and their clothes, daredevil fellows who cared little what their future might be, ready to fight and die, to the motto, "Never Surrender or Retreat."

DONALD MACDONALD.



COLONEL ROOSEVELT LEADING HIS "TERRORS" IN THE FAVOUR CHARGE AT SAN JUAN

Belgium, "act on reaction as employees help wheezy wheelmen up activities, and animals go ahead, and when the summit is reached jumps up behind and on a foot, his merry barcarole as the music scoots down hill. In Strasburg he is harnessed behind the bicycle, trotting it effectvely on the up grades and trotting along behind it contently on the level.

Confessions are forbidden to drink wines or spirits, but in Tunisia they continue to reach the same end by smoking opium and eating the seeds of the opium plantations of hemp flowers. The milder kind is called kif and is used in moderation has no more effect than wine, but the concentrated essence known as chicha produces intoxication as quickly as the raw spirits and leads to the same treatment.

The Tartars, or Kurds, have a curious method of extending assistance to each

son of life-inducers of good luck and good fortune. The men have a serious tollroad, and a tollgate, from Fort Russell to Jacksonville, where seven men were killed. The tollgate, a peculiar introduction to the business war, was the injured was Co. Co. Torrey himself. A slogan at this command is that men have discarded sabers and moccasins, and are now wearing puttees and duckhemp rifles, for they are virtually mounted riflemen. The men of the First

ner when in difficulty. If a man loses cattle or other world y goods, he usually buys sugar into a place where he has a few friends and divides the goods, the sugar and the clothes and the cloth, first into parcels of such parcel to each of his friends and acquaintances. The recipients then present the unfortunate one with a few sheep, a sum of money, according to his means, and in that way help him upon his feet again.

In Australia, even for murder, a woman is never put into an ordinary prison, much less brought to the gallows. Whatever the crimes of which they are con-

victed, women are sent to the convicts set apart for this purpose and are kept there as long as the Judge determines. The ladies superior have practically no free hand over the criminal police and receive from the government 17 pence a day for each criminal who is under their care.

A sentence of ten years' imprisonment has been meted out to Prince Achmet, Self Eddin, the cousin of the Sultan of Egypt, who shot his brother-in-law, Prince Fuad. Offenders of royal blood who commit such serious crimes are

their dreams heartily all their years, while the latter might benefit from contact with the former men of leisure and refinement from the companionship of some of the great geniuses of the nation, and the darling of society." This movement has two rapid-fire, Colt guns and a dynamite gun, airillery auxiliaries and a large battery of dynamite guns, does not possess. In addition, it has a murderous corn knife, or machete. Its equipment is armed with six shooters

unally sent to an insane asylum, but in the case the detective has refused thus to mitigate the sentence.

Stephen D. Griswold, law librarian of the New York State library at Albany, has been celebrating his 30 years of continuous service. He is the only person in the state capital who has held office so long a period. During his incumbency the number of volumes in the library has increased from 29,000 to 60,000.

A party of scientists, headed by President David Starr Jordan of Stanford university, has left San Francisco for Flagstaff, A. T. "This place will be made the center of a survey and is being taken into the surrounding country for a geological investigation. The Grand Canyon of the Colorado, and the Enchanted Mesa will be fully explored."

Failure in the supply of army and navy clothing has been reported by the girls, Miss Oliver, Parrish and the oldest daughter of the admiral, going to marry a civilian, Henry Harrison Scott of San Francisco, but the departure from the established precedent does not seem so violent in view of the

a few cows fresh from the ranch or cowboy who have for the time being left their business pursuits to fight under the stars and stripes. Some few of them have thrown aside remunerative positions paying as high as \$2,000 a year, but the majority are plain men, and nothing when they enlisted for their last month's pay and their clothes, daredevil fellows who cared little what their future might be, ready to fight and die, to the motto, "Never Surrender or Retreat."

DONALD MACDONALD.

THE NEW YORK HARBOR

"PREPARE FOR ACTION!"
"All ready, sir!"
"SLOW DOWN!"
"Aye, aye, sir!"
"MAKE IT HARD ABOARD!"
"Hard aboard it is, sir!"

These sharp orders and ready responses will ring out on each of Commodore Watson's big fighting ships when the eastern squadron has crossed the Atlantic, and Barcelona, Cadix, Cartagena, Ferrol, Valencia, Cádiz, some Spanish seaport in the Canaries seems to fairly cover before the big guns of the fleet.

Commodore John Crittenden Watson, No. 6 on the list of his rank, was born in Frankfort, Ky., in 1842, and will be 50 years old on Aug. 21. He was appointed midshipman from his native state in 1856 and entered the Naval Academy at Annapolis, Md., on Sept. 29, graduating in June, 1860. He became a master, a grade now abolished, on Aug. 31, 1861; a lieutenant on July 16, 1862, when he was ordered to the Hartford as a navigator, a lieutenant commander on July 23, 1865, a commander on Jan. 23, 1874, a captain on March 6, 1887, and a commodore on the 7th of last November. He will become rear admiral in the natural course of events on Dec. 26, 1899.

He is an officer of long and varied experience, and his record marks him as one of the ablest men in the navy. As Farragut's flag lieutenant he was of great assistance to the admiral in the battle of Mobile Bay, Aug. 5, 1864, and was twice wounded, once by a shell from the Confederate steamer Warrington. To him and Richard Knowles, sea-mach, also fell the honor of leading Farragut to the mizzen rigging on the cross-trees of the Hartford. His conduct won unqualified praise from the old admiral.

"Lieutenant Watson was brought to your attention in former times," declared Farragut in his official report. "He was on the poop attending to the signals and performed his duty as might be expected. He is a seaman worthy of the noble stock he springs from, and I commend him to your attention."

Commodore Watson was also in the battles of New Orleans, Vicksburg and Fort Hatten. Since the war he has had the usual routine duty of a naval officer, at sea and on shore, and was for a number of years governor of the Naval Home in Philadelphia. In 1873 he married Miss Elizabeth Thornton, daughter of Judge James Thornton of San Francisco. One son, John Edward Watson,



COMMODORE WATSON.

date his family stock. His father was Dr. Edward Howe Watson, and his mother Sarah Lee Crittenden, a daughter of John Jordan Crittenden, a governor of Kentucky who later became attorney general in William Henry Harrison's cabinet. General Thomas L. Crittenden, U. S. A., who at the battle of Buena Vista delivered to Santa Anna the memorable response, "General Taylor never surrenders," was an uncle to the commodore.

Governor Crittenden's second wife was the widow of John Harris Todd, and the son by her first marriage, Harry Todd, was the father of Chapman C. Todd, a commander in the navy who has been in charge of the gunboat Wilmington, that has done such good service about Cienfuegos and the southern shore of Cuba.

When the project of attacking Spain's seacoast cities was first announced by the navy department, the warships ordered to take part in the demonstration were named, but since then there have been so many rumors of changes that the exact make up of the fleet is in some doubt. The following ships are the ones first officially announced as composing the fleet:

1. The Newark, flagship, commanded

eight 8 inch guns, four 6 inch, two 10 inch rapid firing 6 pounders, six 1 pounder machine guns. Her length is 348 feet, beam 60.3 feet. Technically described, she is a "seagoing coast line" ship of 10,235 tons. She has one military mast. Her commander is Captain Charles E. Clark.

In the great fight off Santiago, the Oregon very materially assisted the fleet armored cruiser Brooklyn in rounding up the Cristobal Colon, and her big guns did an immense amount of damage to several of the Spanish ships. The Colon was a new cruiser and was probably the swiftest ship in the Spanish squadron, but the Oregon, plunging along at a speed of 16 knots, was able to practically overhaul her and compel her to surrender.

2. The Iowa, which many naval men consider the ideal battleship of the navy, but one in which greater speed and coal endurance are sought at the expense of armor and armament, is commanded by the famous Robley D. Evans, "Fighting Bob," who is just seven years lower than Barker on the list of captains. The steam radius of the Iowa is 7,000 miles. She is our fastest battleship, being of 11,225 tons displacement, and our fastest as well, credited as she is with a speed of 17

went into the action was hurt by bursting shells or flying splinters. Her 12 inch guns were served with terrible precision, and the 350 pound projectiles crashed through the armored sides of the Vizcaya, Mar a Teresa and Albatros. The battleship Massachusetts has been mentioned as a possible substitute for the Iowa in the squadron, and the cruisers Columbia and Minneapolis as possible additions to the roster of the fleet.

The three auxiliary cruisers, the Yankee, the Dixie and Yosemite, were formerly the Morgan liners El Norte, El Sol and El Sur. The first is commanded by Commander Willard H. Brown, who at Rio Janeiro fired the shot that was never answered and resulted in the collapse of the revolution there; the Dixie by Commander Charles F. Davis, who in two months from now will be captain, and the Yosemite by Commander Willard H. Brown of Greeley relief fame, who was a silent spectator on the Pyralis at Port Arthur during the war between China and Japan. New York naval reserves man the Yankee, Michigan reserves man the Dixie, and Marylanders the Yosemite. The last named has a battery of ten 6 inch guns, four 6 pounders and two Colt machine guns. The other two cruisers are supplied with batteries of ten 5 inch guns, six 6 pounders and two Colts. A number of colliers and a supply ship, originally merchant ships that have been purchased by the government, also accompany the expedition. Unless there is some serious accident, however, there

ships, the armored cruisers New York and Brooklyn of 21 knots speed, the Columbia and Minneapolis of 23 knots, the Cincinnati of 20 knots and the auxiliary cruisers St. Paul and St. Louis of 22 knots. It was Captain Alfred T. Mahan's convincing arguments that resulted in the plan of sending this initial squadron to harass Spain's coasts, and whatever subsequent suggestion he makes may be adopted by the government.

It is the general belief in naval circles that no sustained attack will be made on the Canaries, but that the fleet may stop there under the lee of the islands to replenish their bunkers, leaving the supply on the colliers untouched, and then proceed directly to Cadix to bombard the city, as Santiago and San Juan were bombarded. It may happen, however, that a naval base will be seized in the Canaries.

Spain's available ships in and near Spain are the old cruisers Victoria, Numancia, Lepanto and the Cardenal Cisneros, with three torpedo boats, the Arleta, the Rago and the Aristo, at the Canaries. Of the four cruisers mentioned it is known that the first two are comparatively worthless, and the last mentioned has for weeks been undergoing repairs. No information as to her condition and state of efficiency is available, but she cannot compare favorably with our second class ships. The Principe de Asturias, it is said, is being hastily completed. In addition to the ships named, Admiral Camara's fleet returns from the abortive Zhihppe expedition

Carlos V.—Captain Jose Juarez; 351 men. Audaz.—Captain Guillelmo de Avila; 73 men. Proserpina.—Captain Sanchez; 72 men. Osado.—Captain Shimmers; 72 men. Rapido.—Captain Federico Compagnon; crew, 235; troops, 200. Patriota.—Captain Barrera; crew, 250; troops, 200. Buenos Ayres.—Jose Grau; crew, 195; troops, 1,041. Isla de Panay.—Captain Baste; crew, 102; troops, 703. Cavadonga.—Captain Prestella; crew, 117; cargo, coal. Colon.—Captain Louis Campos; crew, 130; cargo, stores. San Francisco.—Captain Marroig; crew, 68; cargo, ammunition.

In all this fleet the only fighting ships of importance are the battleship Carlos V. and the Carlos V. The Carlos V. is the first and only battleship Spain has ever built. Mightily as she is, our naval officers believe she will speedily meet the fate of the other crack ships of the country, though manned by American officers and seamen she might prove a formidable antagonist to the Iowa or the Indiana. She has a length of 330 feet and a beam of 66 feet, with a displacement of 9,900 tons. Her coal capacity is 800 tons, which will allow her to steam 5,000 miles at 12 knots an hour. She has two 12.5 inch guns in barbets, one forward and one aft; two 11 inch guns in barbets, one on each beam; nine 5.5 inch, one 3.5 inch, two 2.7 inch, three 6 pounders, twelve 1 pounder re-

Spain's naval strength, two small vessels at Cadix, the Caracal and the Medora, of which little is known, and the armored yacht Giralda at Cartagena, but none of these yachts as ships of attack or is intended for offensive operations. There are some few torpedo boats in the harbors of the principal cities.

The ports on the Bay of Biscay are much farther removed from Spain's naval stations and so called warships than those on the southwestern coast and the shores of the Mediterranean, but where Watson will first strike remains to be seen. Prizes will be captured with ease most anywhere along the coast, but the greatest damage to Spain's commerce and financial interests can be inflicted by an attack upon Cadix, Cartagena, Valencia and Barcelona. Port Mahon, in the Balearic islands, a model harbor well known to the naval officers of the world, would form an excellent base of supplies, and it may be seized by our fleet, but it is certain that the navy department will leave no stone unturned in many details of the trip of invasion.

It will have one beneficial influence on Spain in uniting her people against the attacks of the common enemy. It may even be her salvation from anarchy and the followers of Don Carlos, and possibly end in her establishment of a triumphant republic, though favorable results cannot be expected in the light of her past history. Her people, stirred by patriotic motives, are hastening to offer their services and their money in defense of the country's threatened ports. Her soldiers can fight better than her sailors; but there is no reason to suppose the United States will attempt any armed conquest of the land. Important centers of trade like Santander, Bilbao, Coruna, Gijon and Vigo are being into a respectable force of marine and land defense. Cadix harbor is being soon with torpedo boats, the Mediterranean towns have extensive submarine defenses, but Farragut cared nothing for them at Mobile. Dewey scored them in Manila bay, and Mahan, who was with both these officers 31 years ago, knows their exact value. Camara's fleet is the only Spanish naval problem left for Uncle Sam to solve. Dewey has smashed the fleet of Admiral Montojo, Schley and Sampson have sent Admiral Cervera's men, and the fleet is on the bottom of the sea, and the naval question of the hour is, "Will Watson smash Camara?" To the attentive American ear Echo seems to answer, "You bet!"

ROGER P. BARNUM.

Drinking Water For Ships.

The distilling of salt water on board ship nowadays has done away with a trouble which in old days was as much a matter of importance as is the coal supply of a modern man-of-war. Besides using it for drinking and cooking purposes, it is necessary to have pure water for the boilers that furnish power to the vessel. Sea water cannot be safely used in them, for the deposit of salt would impair their efficiency.

An outfit for supplying fresh water on a vessel includes at least three items: an evaporator, a distiller and a filter. The first and second resemble each other in appearance and interior arrangement, but the distiller is the smaller of the two. The filter, through which the water passes before being used, contains a supply of fine malic acid. Sometimes the water, after going through the filter is subjected to another process. By means of an "aerator" air is made to bubble through the water and impart more life to it. This process is not essential, but it takes away the rather flat and insipid taste the fluid would otherwise possess.

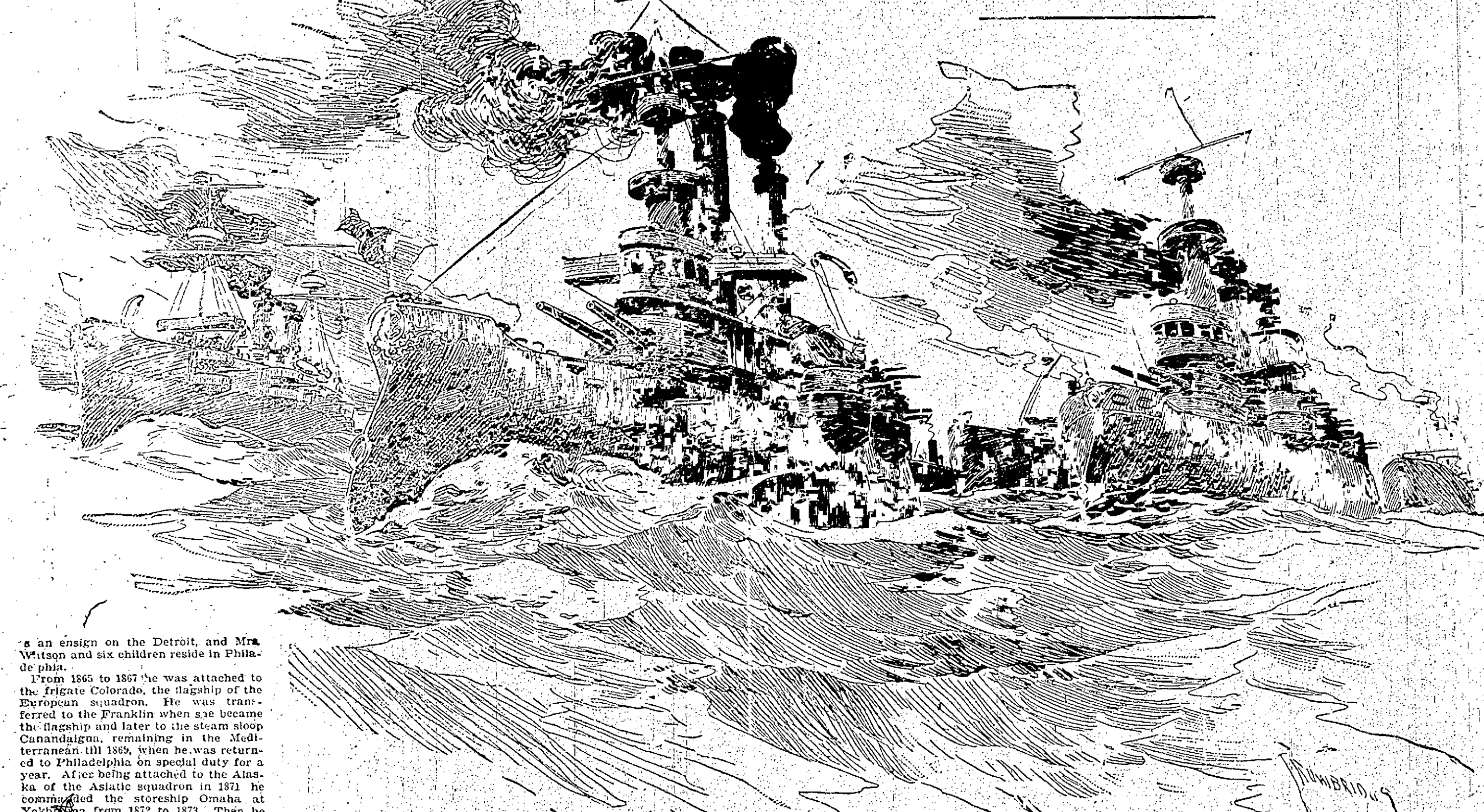
The quantity of water obtained in this manner in the course of 24 hours varies according to the size of the plant. Several of the small vessels recently equipped at the Brooklyn yard have evaporating apparatus that will yield about 2,000 gallons a day. The consumption of these vessels, it was estimated, would be in the neighborhood of 1,200 or 1,300 gallons daily. The storage tanks with which the vessels are furnished need not be larger than is required to hold a day's supply. Great space, of course, results from the adoption of this system. The evaporating plants on the fast passenger ships of the American line chartered by Uncle Sam are each capable of producing 2,000 gallons a day. A New York boat that has equipped nearly 50 vessels with evaporators in the last few years has just been making estimates of the probable cost of an outfit which would yield 60,000 gallons a day.

The supply of ocean water fed into one of these evaporators is automatically regulated. As the water boils off, more is admitted by means of a pump under the control of a peculiar valve, and when the accumulation of saline matter in the receptacle reaches a certain point it is blown off by the sediment that is found in ordinary steam boilers when the feed water is not altered in purity. In some evaporators the salt shows a disposition to form a scale on the coils, thus interfering with the transfer of heat from the inside of the pipes to the outside. But in the style of evaporator which has met with great favor among the United States navy, such a scale that the a terate expansion and contraction that is going on all the time compels the scale to crack and drop off.

Energy of Big Guns.

Ten 12 and 6 pound guns on a warship are usually mounted in the fighting tops of the masts, where they can command a full sweep of the enemy's decks. They can make energy of a 12 inch gun, represents 26,000 foot tons, or a power that would raise 26,000 tons one foot in a second. It carries a projectile weighing 300 pounds a distance of 12 miles. At fighting distance, those projectiles will pierce 26 inches of armor steel. The 12 inch gun is loaded with a muzzle energy of 34,000 foot tons. Five hundred pounds of powder is used to fire a projectile weighing 1,000 pounds, which will pierce three feet of steel.

or cheered, patriotic must-hall tableaux, he fought recklessly and wantonly. Your carnivorous gentleman is afraid of everything, including doctors, dogs, disease, death and truth-telling. That famous set of teeth possessed by the startled vision of Spanish sharpshooters, and those unwieldy foemen promptly ran. The Tipperary has painted his pipe of peace, and he has a muzzie on his forehead. During our civil war there were 3,125



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THE POWERFUL FLEET OF COMMODORE JOHN CRITTENDEN WATSON.

is an ensign on the Detroit, and Mrs. Watson and six children reside in Philadelphia.

From 1865 to 1867 he was attached to the frigate Colorado, the flagship of the European squadron. He was transferred to the Franklin when she became the flagship and later to the steam sloop Canandaigua, remaining in the Mediterranean till 1869, when he was returned to Philadelphia on special duty for a year. After being attached to the Alaska of the Asiatic squadron in 1871 he commanded the storeship Omaha at Yokohama from 1872 to 1873. Then he was stationed on ordnance duty in New York and from 1874 to 1876 was at the Mare Island navy yard. He commanded the Wyoming on the European station from 1877 to 1880 and was light-house inspector from 1880 to 1886. After two years on special duty at San Francisco and another term at the Mare Island yard for two years he assumed command of the cruiser San Francisco in July, 1892. At the expiration of his cruise, in May, 1895, he was detailed to the Naval Home.

He is a man of iron gray aspect, with his well lined, weather beaten face, the face of a middle aged man of the sea. Although he has a keen sense of humor, he is usually rather grave in his deportment. In battle he is cool and fearless, and from the time the first gun is fired he is as self possessed when delivering his orders as when receiving them. From the date of the investment of Santiago he was in command of the Havana blockade squadron, a post that naturally gave him little opportunity to become prominent in the public eye.

His middle name would be a most indi-

by Captain Albert S. Barker, late of the board of strategy. She is a protected cruiser, of 4,038 tons displacement, with a heavy protection deck over her machinery. In nautical phraseology, the flagship is "three masted, schooner rig." Her length is 317 feet, beam 45.3 feet. She carries twelve 6 inch rapid firing, four 6 pounders, four 3 pounders, two 7 pounders and seven machine guns. Her speed is 19 knots an hour. She has a steaming radius of 10,000 miles.

2. The Oregon is the crack battleship of the navy. No foreign power has a vessel in commission which compares with her as a fighter. European experts have conceded that she outruns the English Maestri. A sister ship to the Indiana and the Massachusetts, she is greater speed than either of them, 16.7 knots an hour. Her magnificent voyage of between 13,000 and 14,000 miles from Puget sound to Key West has never been equaled by a ship of her class. The first American battleship to cross the equator, she is the first to cross the Tropic of Cancer. Her four 12 inch guns in the turrets are supported by

knots an hour. Her length is 360 feet, her beam 12 feet and she has an armament of four 12 inch, eight 8 inch, six 6 inch rapid firing, twenty 6 pounders, four 1 pounders and four machine guns. Her high freeboard makes her a better seagoing ship than the Oregon, and she can fight better in a heavy sea than her companion, but in calm weather she could not pour out as many tons of metal and would be a better target for the enemy. But other the Iowa or the Oregon can successfully fight Camara's entire fleet. Of Santiago the Iowa bore the brunt of the battle with Cervera's ships. She was the main object of attack, and yet was hit but nine times. Four of the Spanish projectiles struck her unarmored sections and five her armored parts, but none penetrated the armor, and not one of the 500 men who

will not be the slightest necessity of ton must be reckoned with. The flag-ship Pelayo, the armored cruiser Emperador Carlos Quintos (Charles V.), the armored cruiser Patriota, late the Nor-mania, carrying 12 guns, a few torpedoes, and the Buena Vista, with ten guns, stores and a few troops; the torpedo boat destroyer Audaz, the armored cruiser Isla de Panay of two guns, carrying stores and a few troops; the Rapido, late the Columbia, of 12 guns, carrying a few troops; the Colon, a storeship, without guns or troops; the torpedo boat destroyers Proserpina and Osado, the transport Cavadonga, no guns, and at that rate can run 4,600 miles. At ten knots an hour it will take the fleet 3 days to reach the Canaries, on a fortnight to place it outside the fortifications of Cadix. It is possible the squadron may be followed by our fast going

The officers and ships' complements are as follows: Pelayo.—Rear Admiral Camara; Captain Fernandez Jose; crew, 565 men. Isla de Panay.—Captain Baste; crew, 102; troops, 703. Cavadonga.—Captain Prestella; crew, 117; cargo, coal. Colon.—Captain Louis Campos; crew, 130; cargo, stores. San Francisco.—Captain Marroig; crew, 68; cargo, ammunition.

The supply of ocean water fed into one of these evaporators is automatically regulated. As the water boils off, more is admitted by means of a pump under the control of a peculiar valve, and when the accumulation of saline matter in the receptacle reaches a certain point it is blown off by the sediment that is found in ordinary steam boilers when the feed water is not altered in purity. In some evaporators the salt shows a disposition to form a scale on the coils, thus interfering with the transfer of heat from the inside of the pipes to the outside. But in the style of evaporator which has met with great favor among the United States navy, such a scale that the a terate expansion and contraction that is going on all the time compels the scale to crack and drop off.

THE ARMY AND NAVY.

The regulations of both the army and the navy forbidding profanity, and any sort of language which might be a source of offense to the public, are strictly enforced. The regulations of both the army and the navy forbidding profanity, and any sort of language which might be a source of offense to the public, are strictly enforced.

occasion, and history furnishes no record of their having been court-martialed on that account. Upon the outbreak of the civil war, when the first call for volunteers came, Charles Smith of New York city attempted to raise a regiment of volunteers to be composed entirely of members of the Smith family. He received

the official permission, but failed to find the Smiths, which was odd, as some may think. That good and gallant fellow, General Fitz-Hugh Lee, talks pathetically of the trouble he has always had to live up to his family name. He may console himself, however, with the reflection that he has done a good deal to increase this same difficulty for his descendants. The Loveland (Colo.) Reporter opens an entertaining war song with the pre-

lude: "There's another call for volunteers, so Johnny, grab your gun, and while the spirit's in you put your name down with a wad. You'll understand between meals that this call is not for fun, and you'll realize when you've started 'tis a long walk home." The grog ration is going out in the British army and diminishing in all armies, and chocolate as a substitute being quite extensively adopted. Nutritive powers are recognized, in as

well as out of military circles. Its increased military consumption in Europe within four years is 25 per cent and in America 50 per cent. John R. Marshall of the Eighth Illinois volunteer regiment enjoys the distinction of being the first negro to wear a colonel's uniform in the United States service. Colonel Marshall was born a slave and received his first military training in 1874, when he graduated with high honors from a school at Alexan-

dria, Va., and received a free course in a state military academy at Hampton, through superiority in scholarship. C. B. Shaw, a writer on military details and numerous other things, says that 99 per cent of the world's fighting has been done on farinaceous food. "Compare the Tipperary peasant of the potato and buttermilk days with the modern gentleman who gorges himself with murdered cow. The Tipperary man never read bloody-minded novels, but

or cheered, patriotic must-hall tableaux, he fought recklessly and wantonly. Your carnivorous gentleman is afraid of everything, including doctors, dogs, disease, death and truth-telling. That famous set of teeth possessed by the startled vision of Spanish sharpshooters, and those unwieldy foemen promptly ran. The Tipperary has painted his pipe of peace, and he has a muzzie on his forehead. During our civil war there were 3,125



3. - - - - - C-A. W - - 3E - CW

Moon Anchor.
Shipments from the Moon Anchor company's properties on Gold hill amounted to 170 tons last week. Of the total amount 60 tons was mill ore and the rest was consigned to the smelters.

ing been done. It is not yet known when the work will actually be commenced; the company awaiting the return of its president, S. W. Mudd, from the east.

She—You used to give me \$100 whenever asked you.

expected to pay back its cost to the investor within a reasonably short time, and if it will do that and then be fruitful of handsome, generous dividends for a while, the life of the mine need not be regarded as being interminable. A sky-scraping office block, on the other hand, is

calculation, and a few inquiries by telephone. The air supply of the mine is as perfect as it can be. Great blowing engines send it down to the bottom of the shaft, where it is caught by immense fans and carried through pipes into the workings of the longest drifts, so that accidents from foul air are unknown in this

and is now 100 feet. Recently a car and track was placed in the tunnel to facilitate the working, and now they will drive ahead, and expect to cut a copper dyke in the next 20 feet. There are many leads opened up on the line of this tunnel and they will begin cutting them from this time on. The E. M. R. is one of the

gh grade rock overlooked by former
eessees and the articles in question gave
the impression that a very important dis-
covery had been made.
Those who are in a position to be in
the know claim that the importance of
the strike has been very much exag-

the initial cost, for the tests which we have made of the ground have conclusively demonstrated its richness. The cost of the matter is that the placer deposits of Lake county have never been thoroughly exploited by modern hydraulic apparatus. I have for many years made a careful study of the placer co-

company has a big increase and the tests which have already been made are perfectly satisfactory so that as soon as all the machinery is in we will begin operations.

